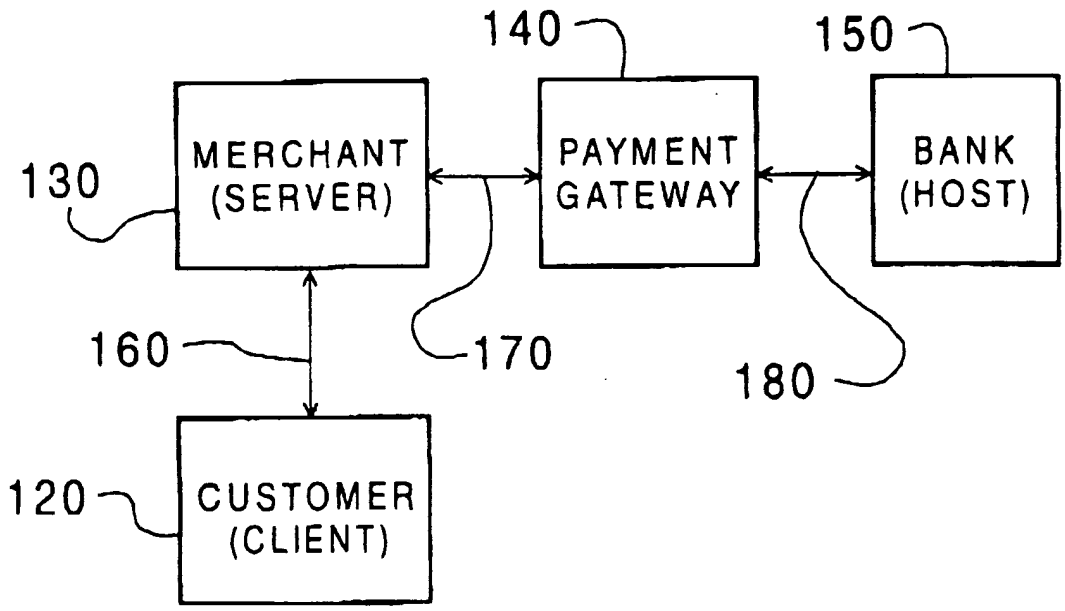

140
150
MERCHANT
(SERVER)
PAYMENT
GATEWAY
BANK
(HOST)
130
160
170
180
120
CUSTOMER
(CLIENT)

Fig. 1

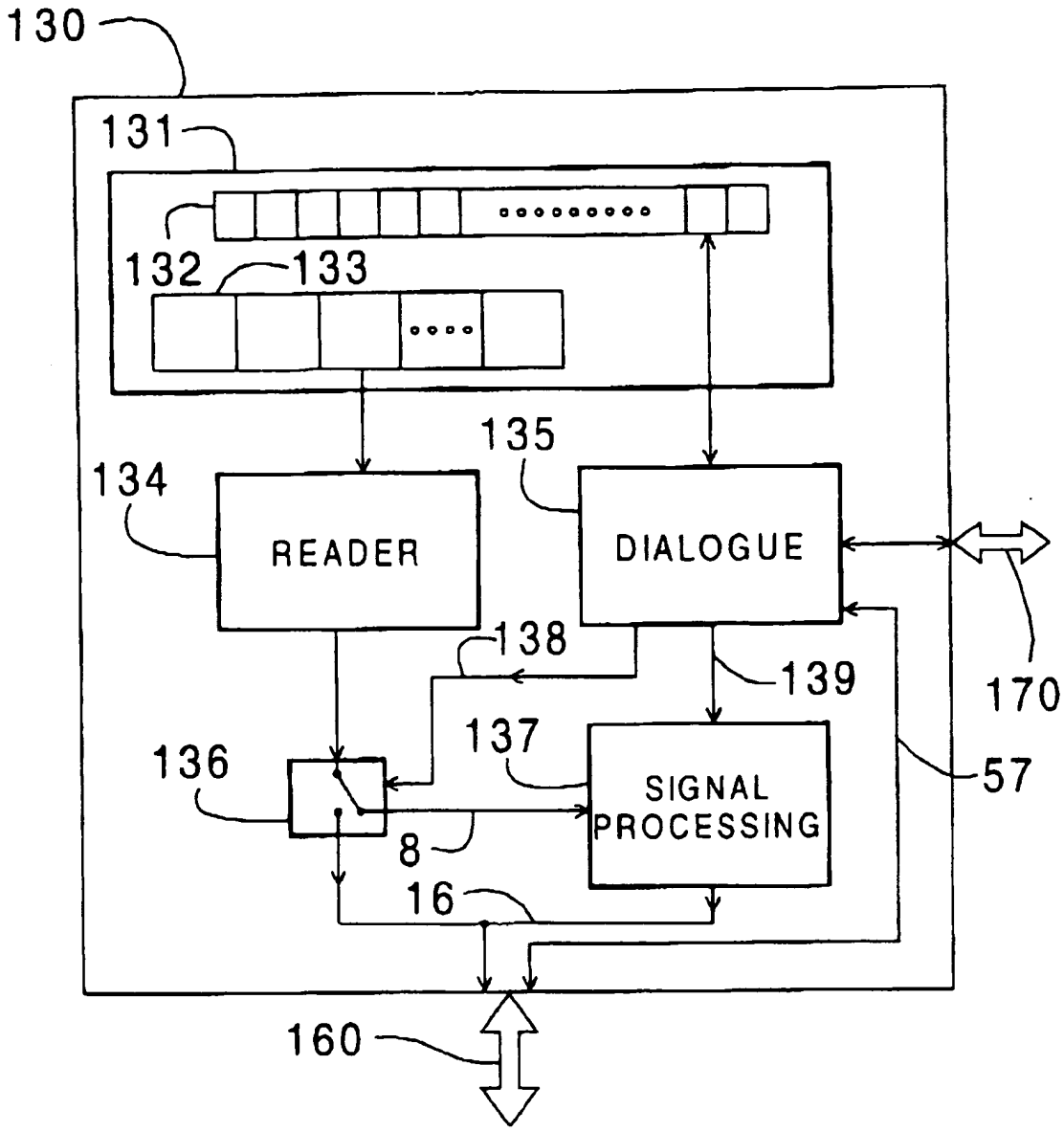

130
131
132
133
135
134
READER
DIALOGUE
138
139
170
137
136
SIGNAL
PROCESSING
57
8
16
160

Fig. 2

Fig. 4

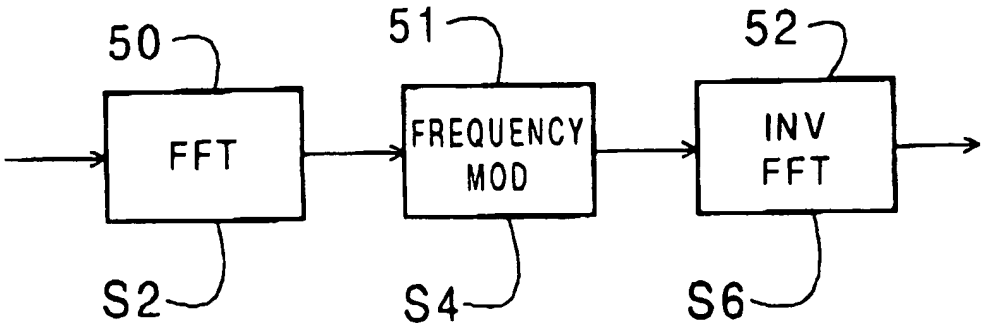

50
51
52
FFT
FREQUENCY MOD
INV FFT
S2
S4
S6

Fig. 3

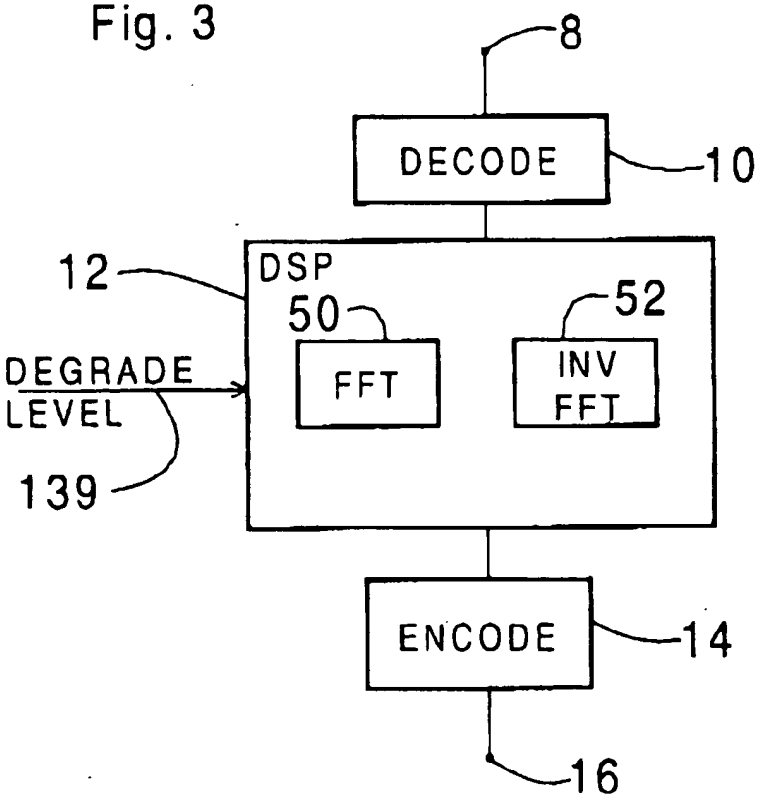

8
DECODE
10
12
DSP
50
52
FFT
INV FFT
DEGRADE LEVEL
139
ENCODE
14
16

Fig. 5A

Fig. 5B

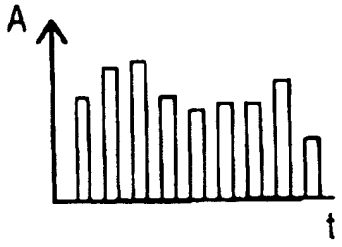


Fig. 5C

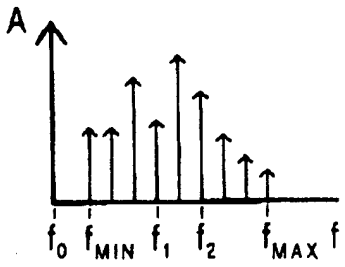


Fig. 5D

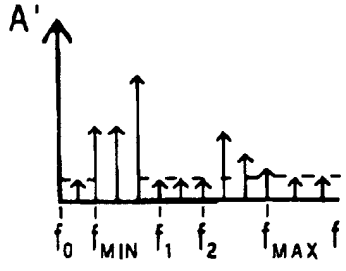


Fig. 5E

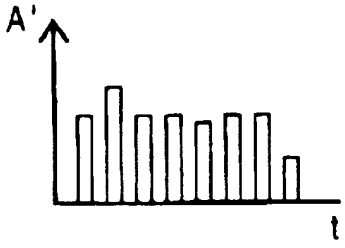


Fig. 5F

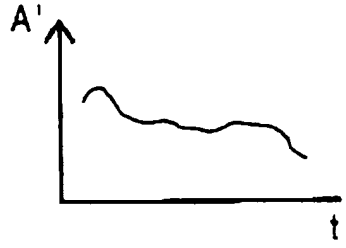


Fig. 6A

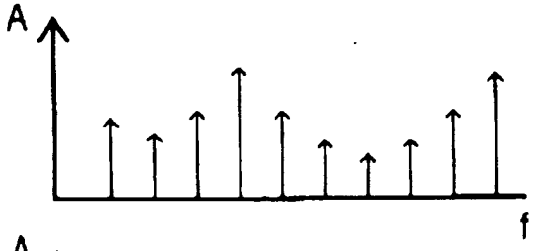


Fig. 6B

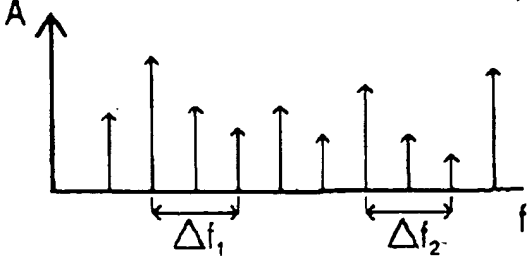


Fig. 7A

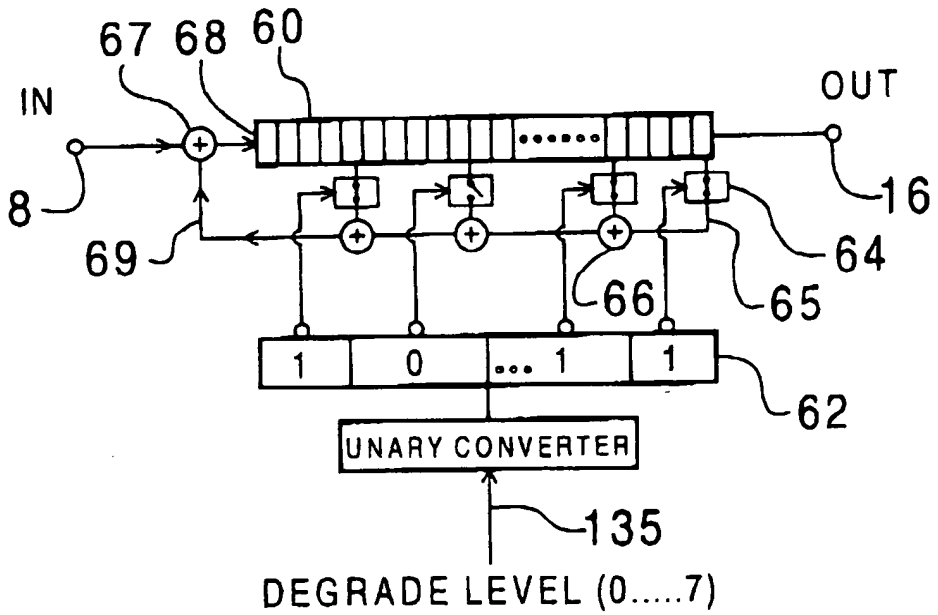

67 68 60
IN
OUT
8
16
69
64
66
65
1
0
... 1
1
62
UNARY CONVERTER
135
DEGRADE LEVEL (0.....7)

Fig. 7B

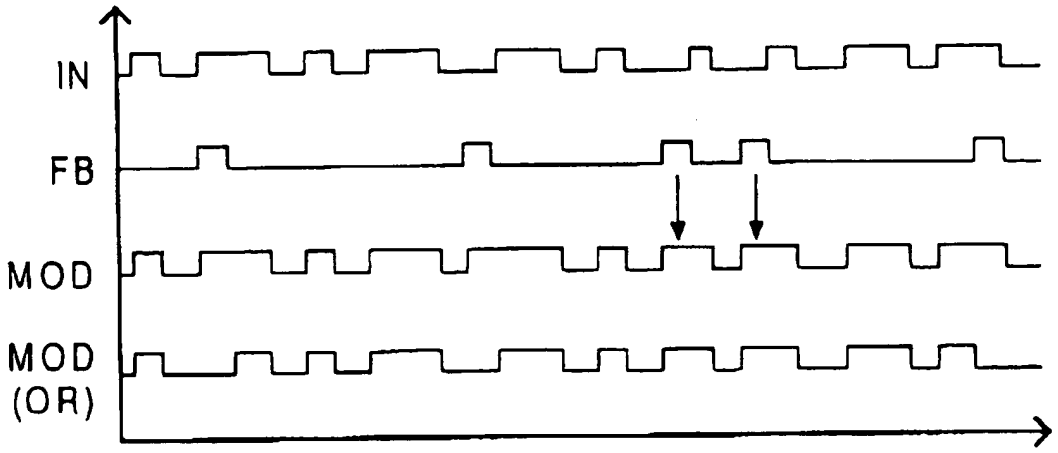
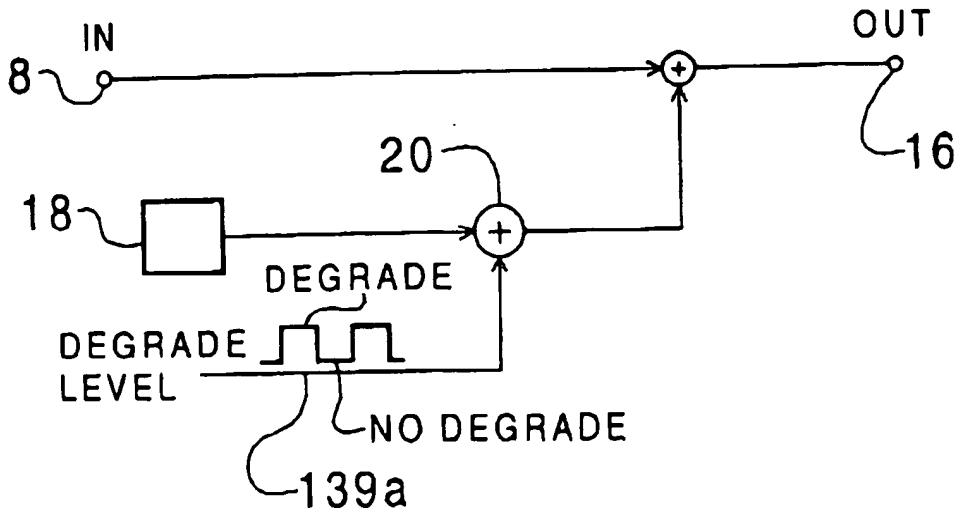

IN
FB
MOD
MOD
(OR)

Fig. 8


IN
8
OUT
16
20
18
DEGRADE
DEGRADE
LEVEL
NO DEGRADE
139a

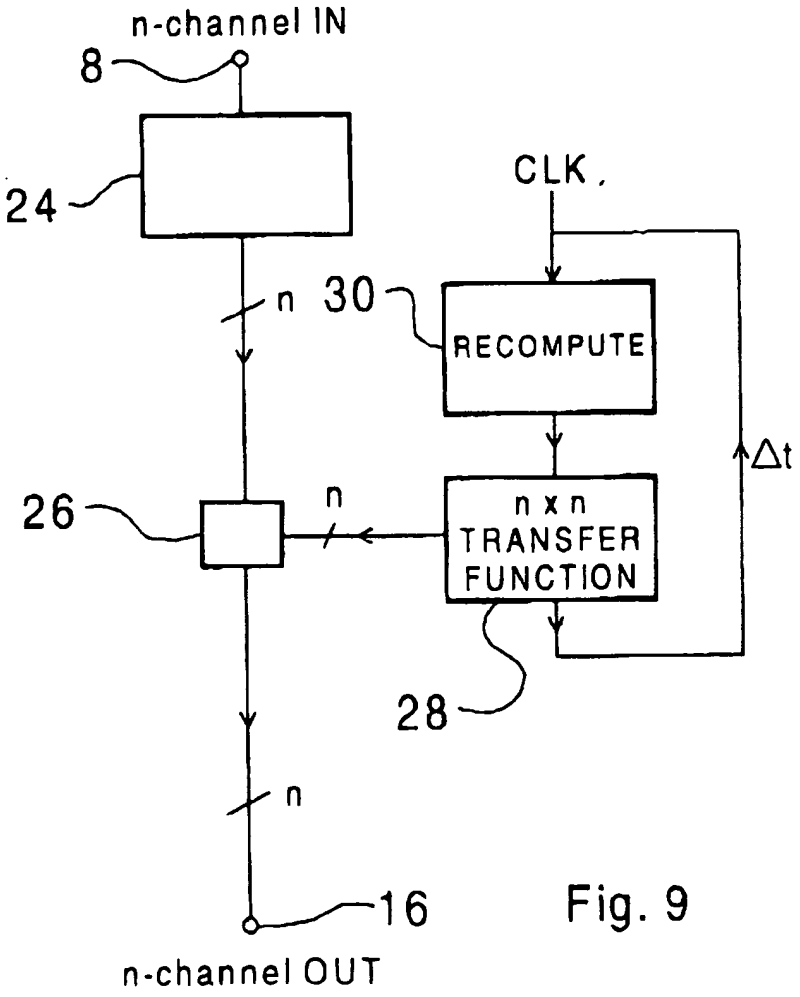

n-channel IN
8
24
CLK
n
30
RECOMPUTE
Δt
26
n
n x n
TRANSFER
FUNCTION
28
n
16
n-channel OUT

Fig. 9

Fig. 10

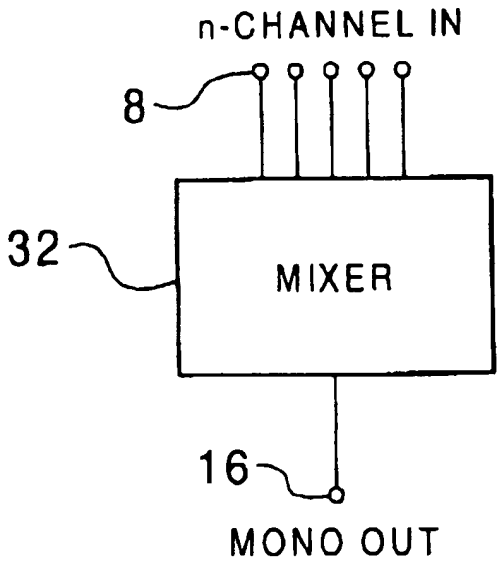

n-CHANNEL IN
8
32
MIXER
16
MONO OUT

Fig. 11

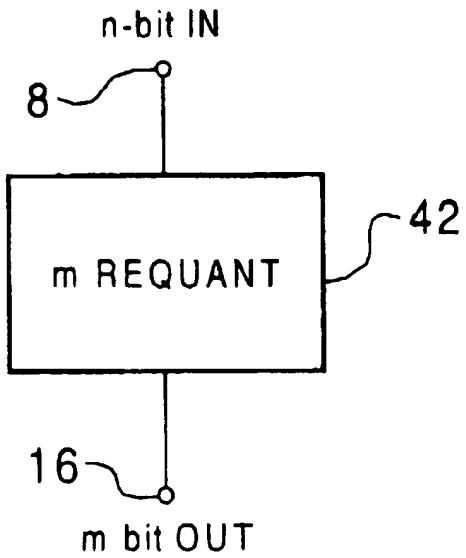

n-bit IN
8
m REQUANT
42
16
m bit OUT

Fig. 12

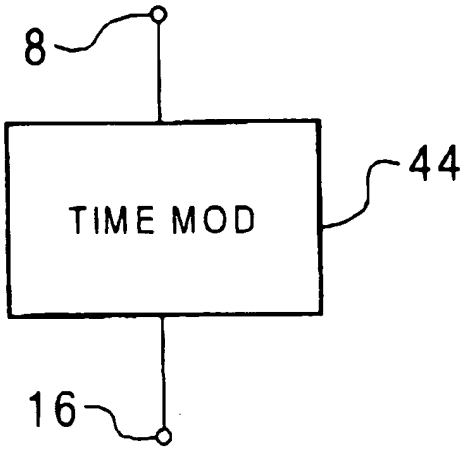


Fig. 13

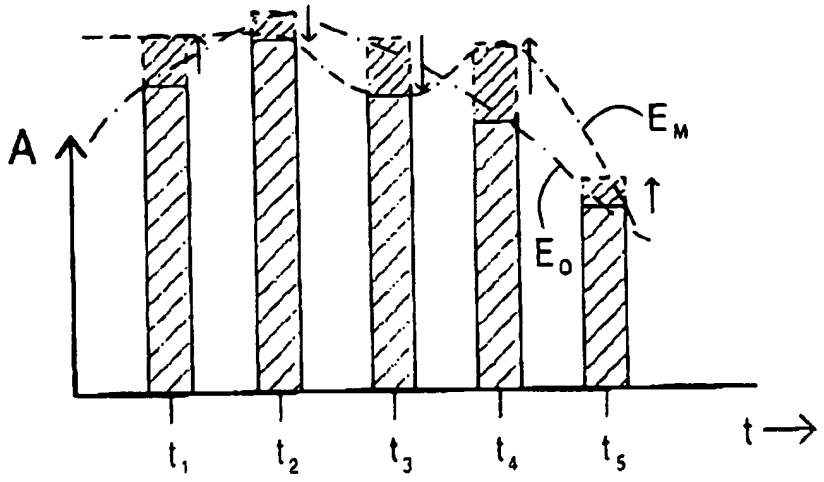


Fig. 14A

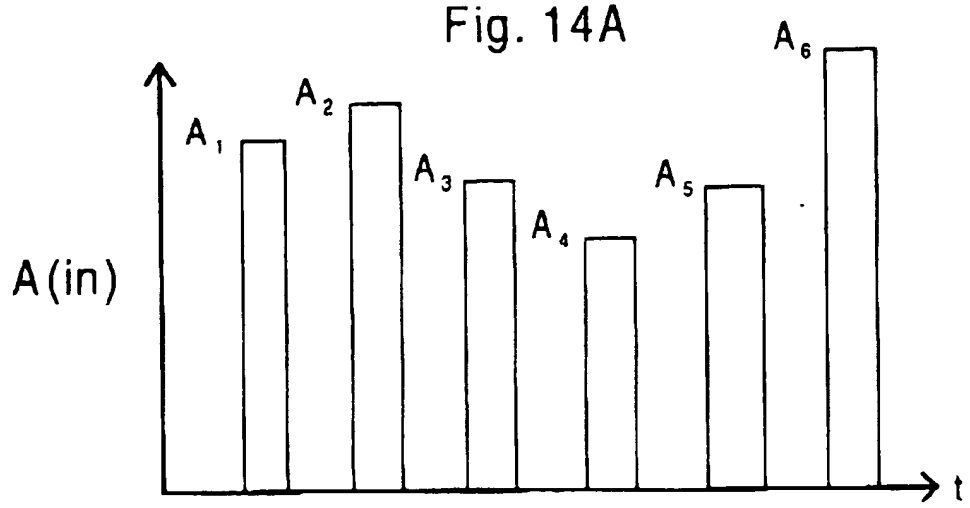


Fig. 14B

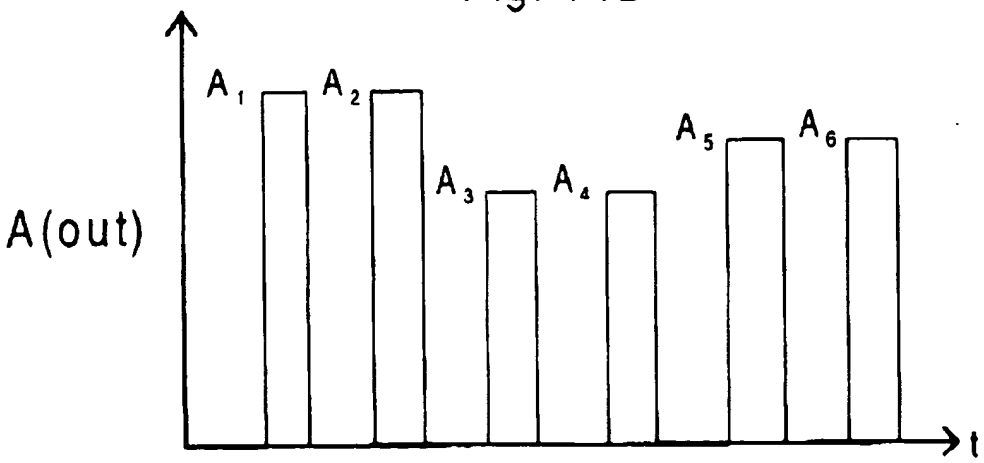


Fig. 15

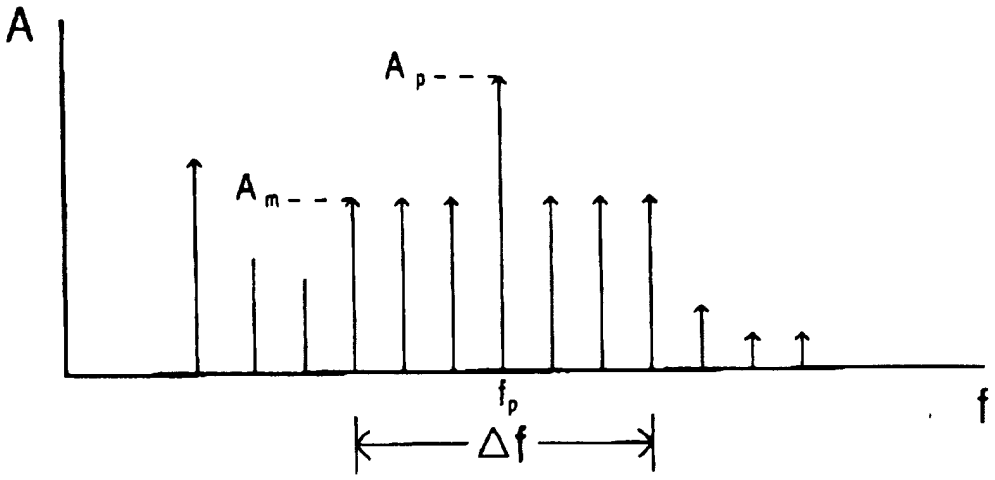


Fig. 16

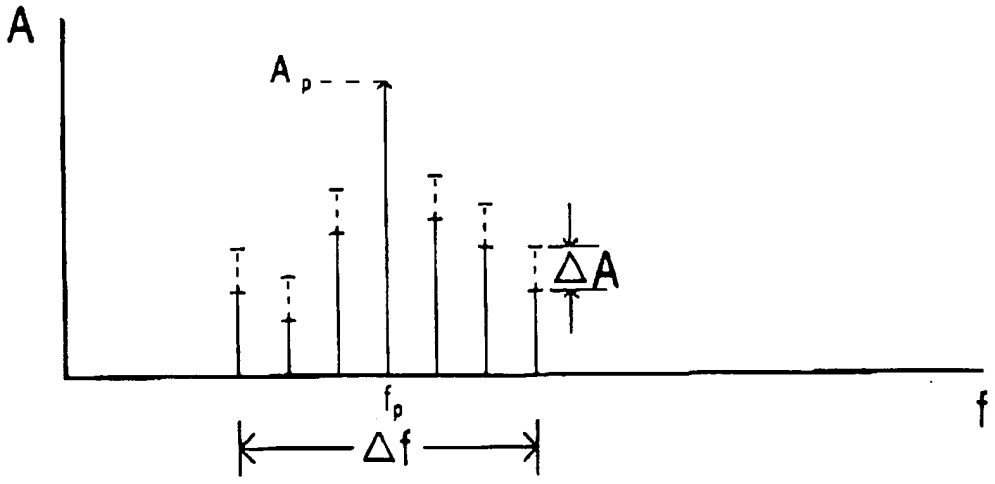


Fig. 17

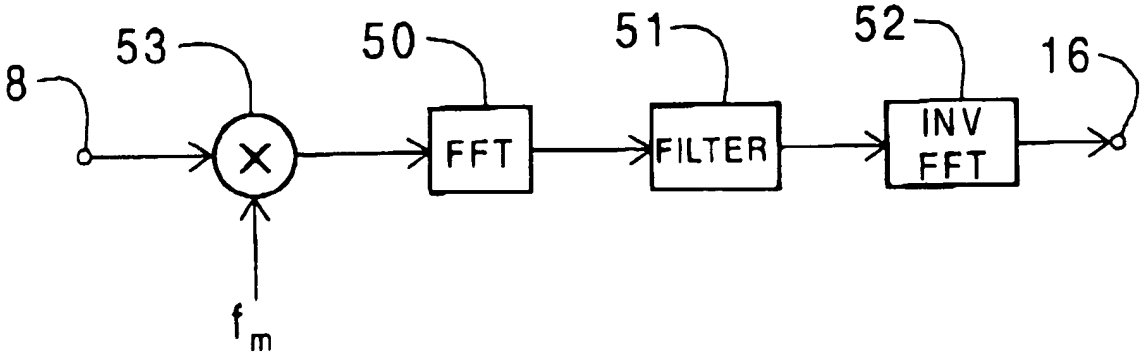


Fig. 18A

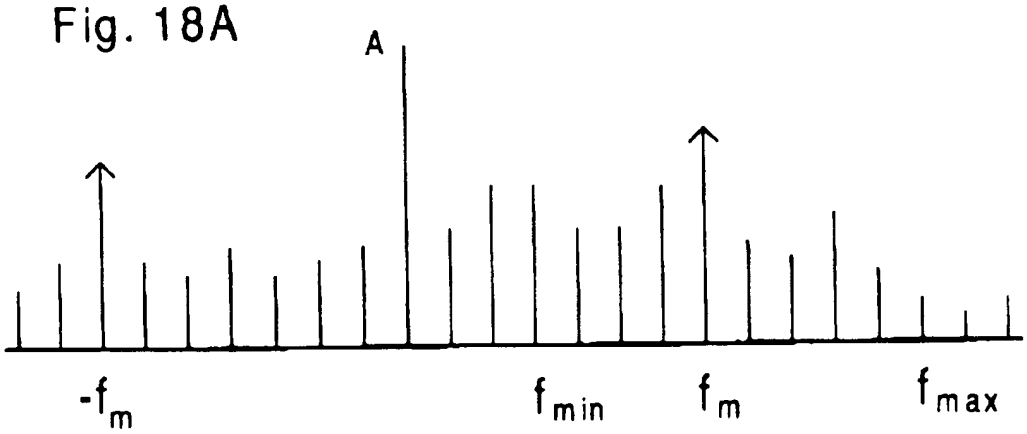


Fig. 18B

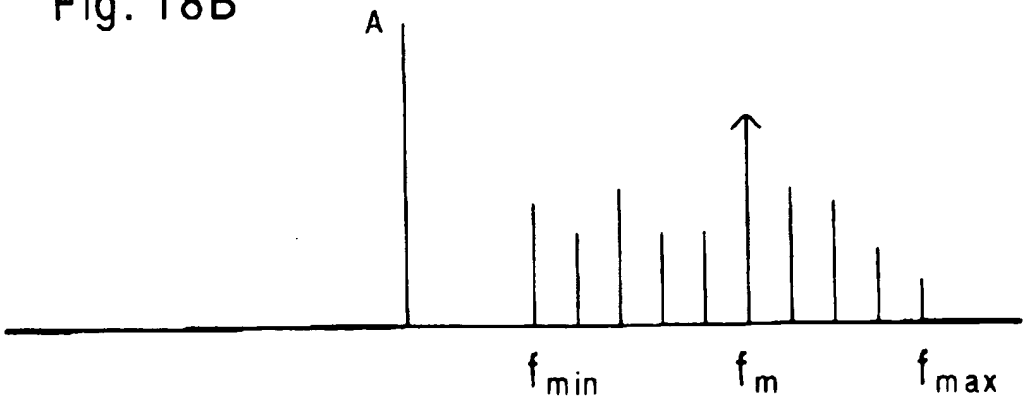


Fig. 15

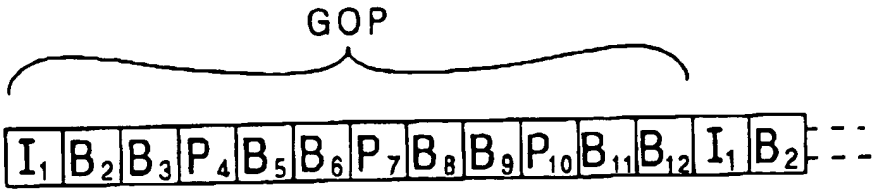

GOP
I1 B2 B3 P4 B5 B6 P7 B8 B9 P10 B11 B12 I1 B2

Fig. 20

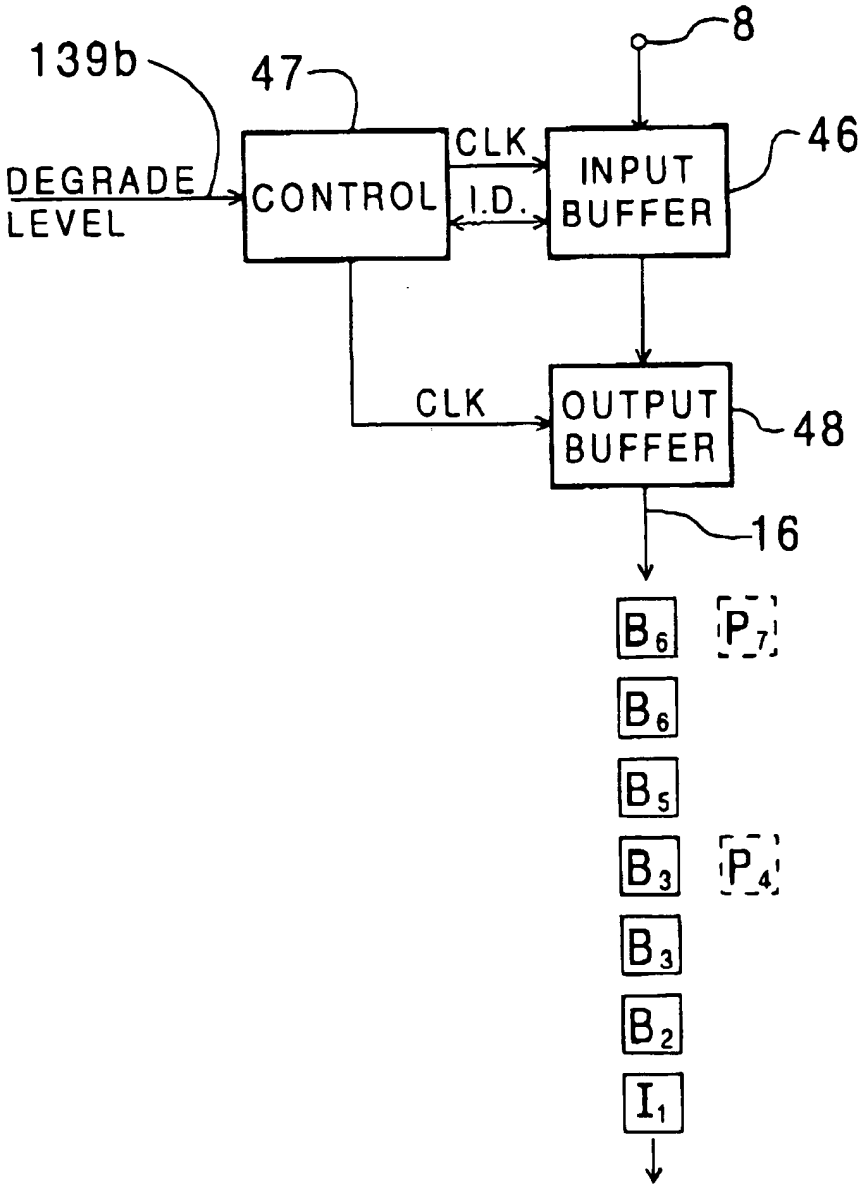

8
139b
47
CLK
46
DEGRADE LEVEL
CONTROL
I.D.
INPUT BUFFER
CLK
OUTPUT BUFFER
48
16
B6
P7
B6
B5
B3
P4
B3
B2
I1

Fig. 21

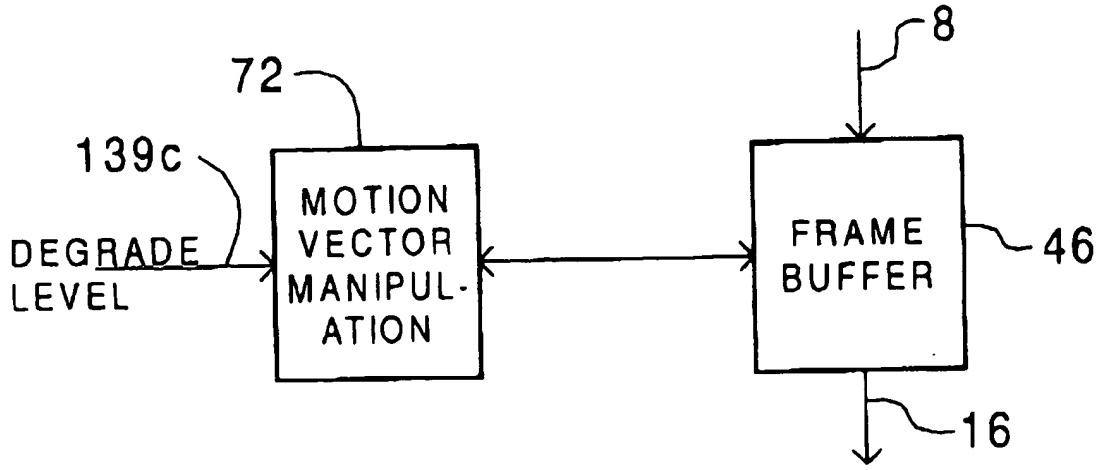

72
139c
DEGRADE LEVEL
MOTION VECTOR MANIPUL-ATION
8
FRAME BUFFER
46
16

Fig. 22

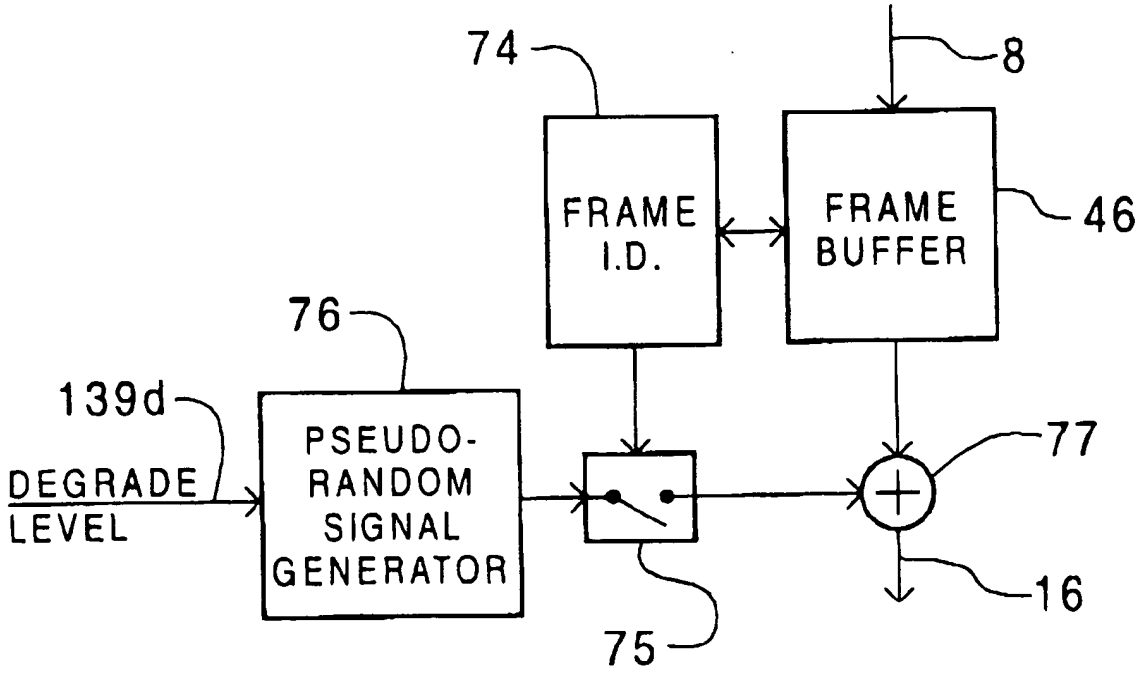

74
8
FRAME I.D.
FRAME BUFFER
46
76
139d
DEGRADE LEVEL
PSEUDO-RANDOM SIGNAL GENERATOR
77
16
75

Fig. 23

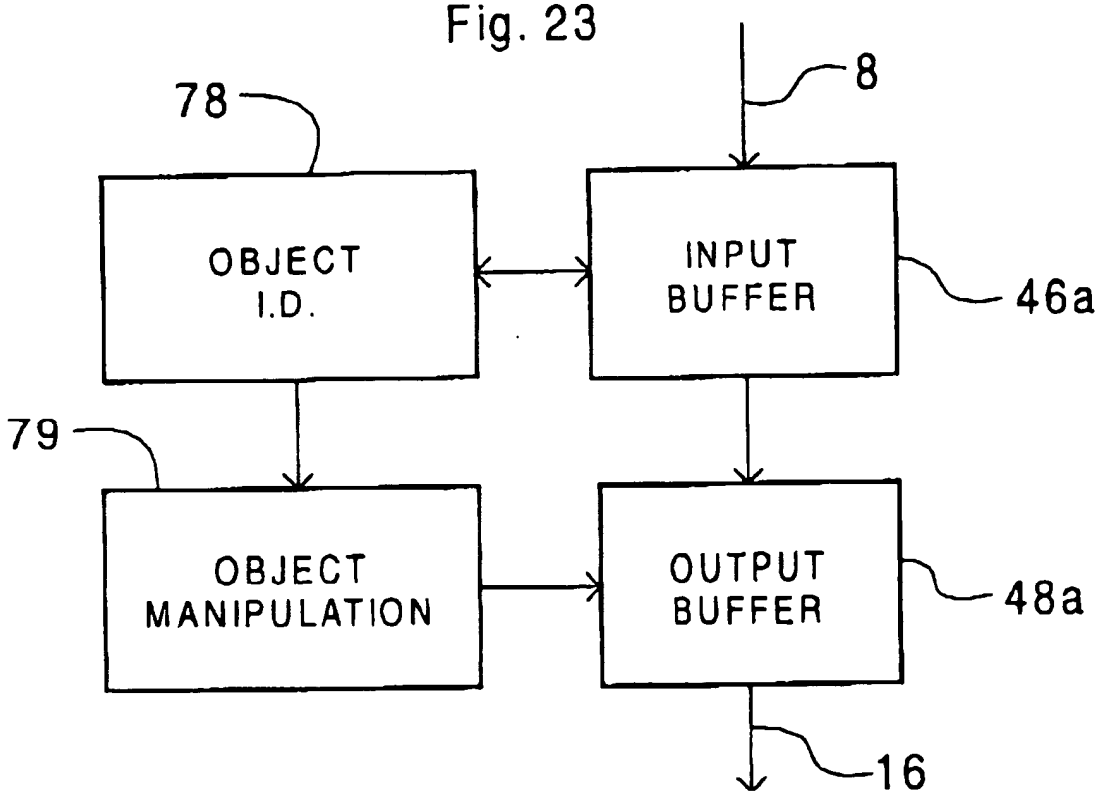

78
8
OBJECT
I.D.
INPUT
BUFFER
46a
79
OBJECT
MANIPULATION
OUTPUT
BUFFER
48a
16

Fig. 24

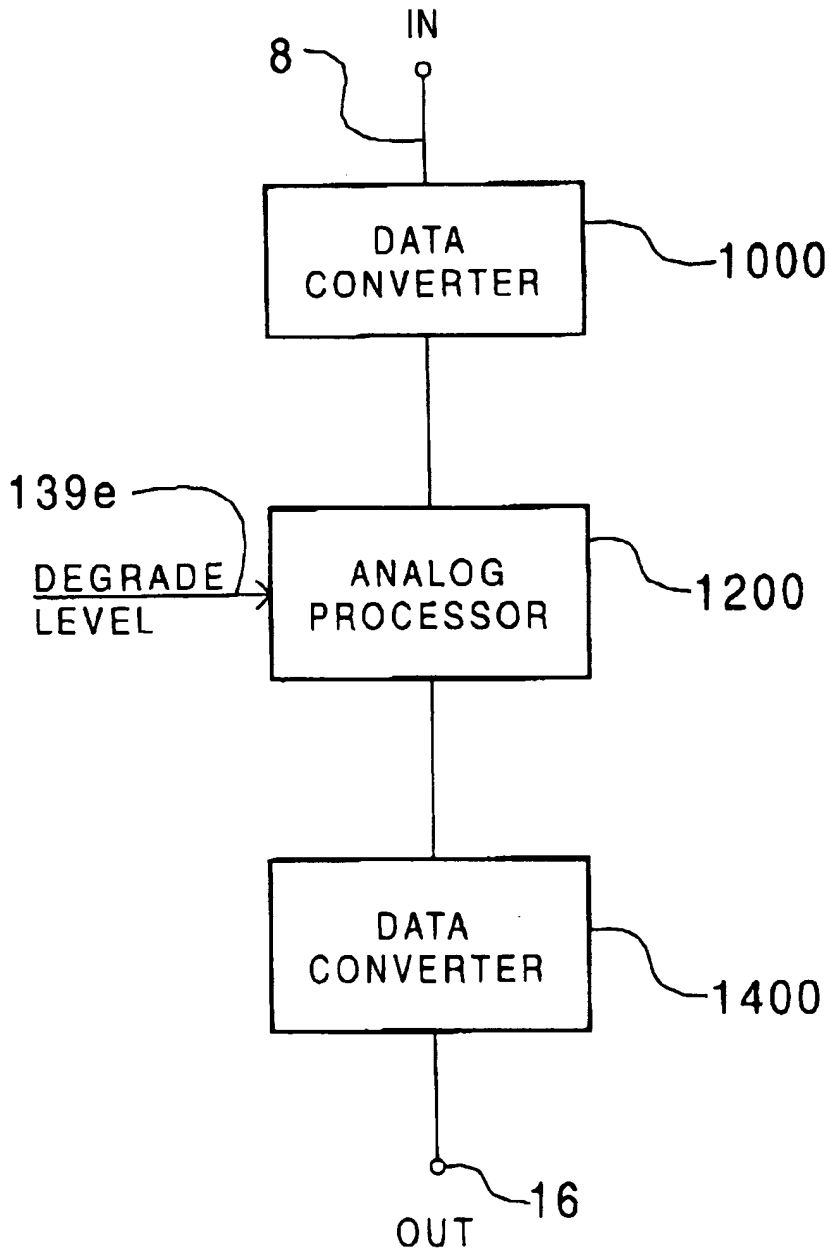

IN
8
DATA CONVERTER
1000
139e
DEGRADE LEVEL
ANALOG PROCESSOR
1200
DATA CONVERTER
1400
16
OUT

Fig. 25

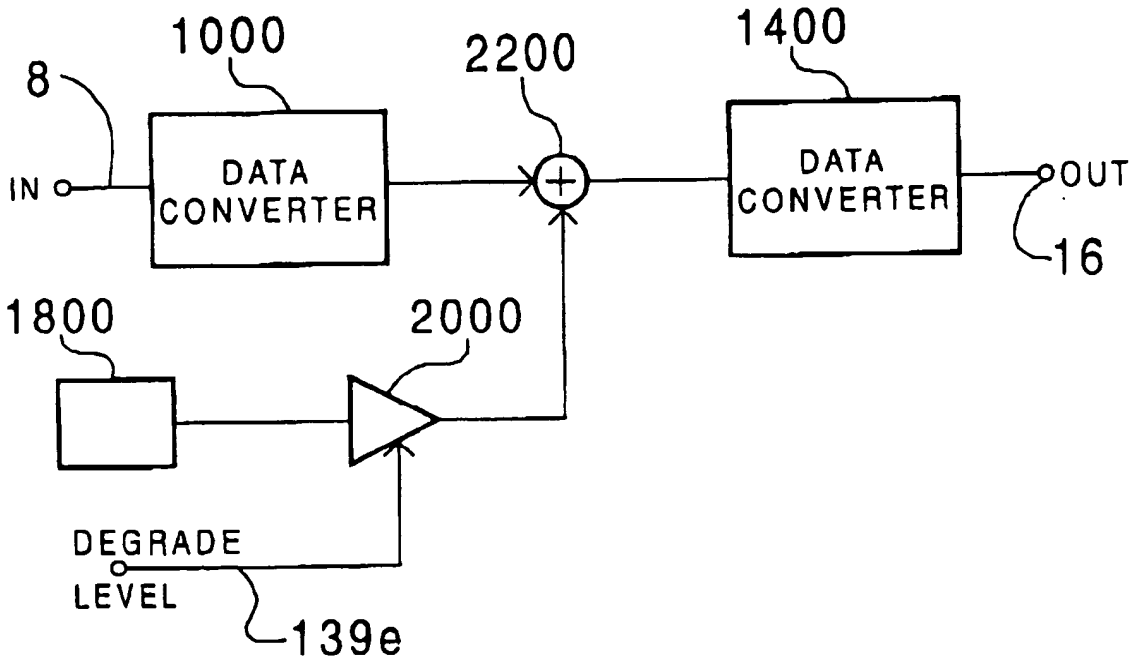

1000
8
IN
DATA CONVERTER
2200
1400
DATA CONVERTER
OUT
16
1800
2000
DEGRADE LEVEL
139e

Fig. 26

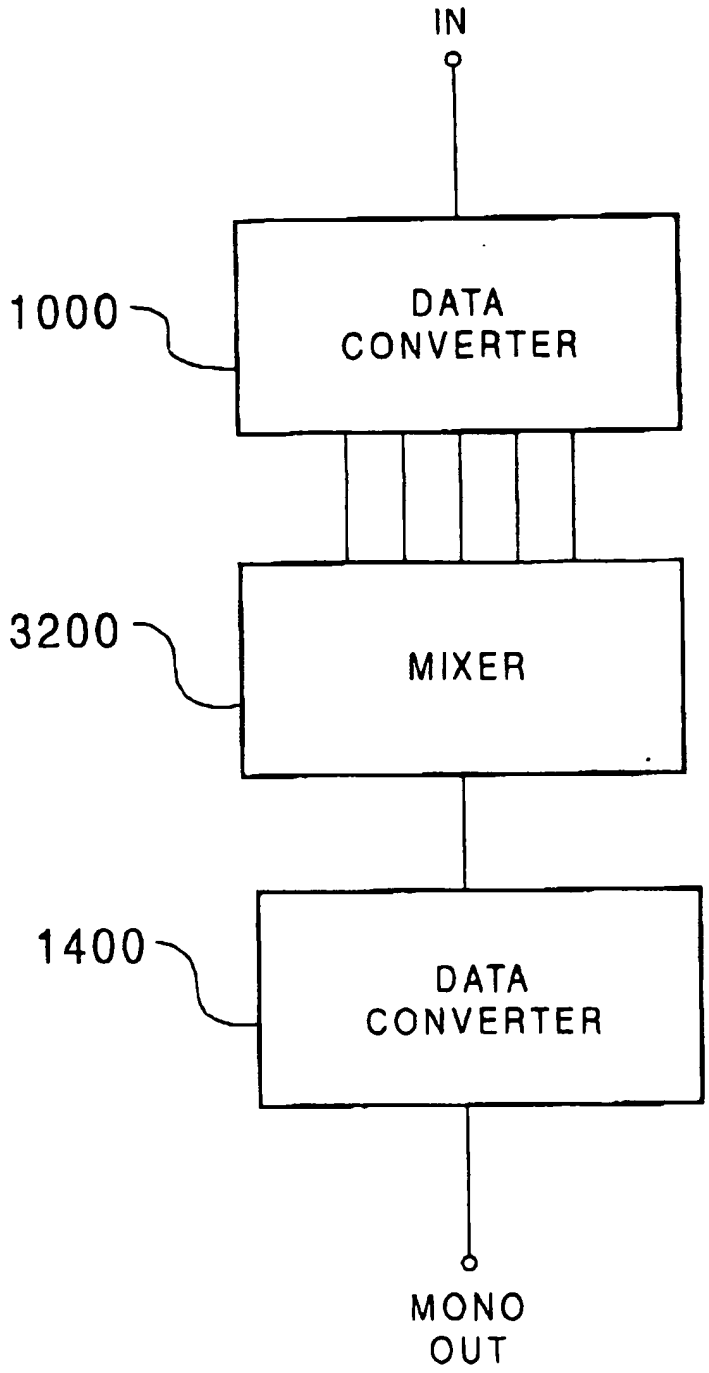

IN
1000
DATA CONVERTER
3200
MIXER
1400
DATA CONVERTER
MONO OUT

Fig. 27

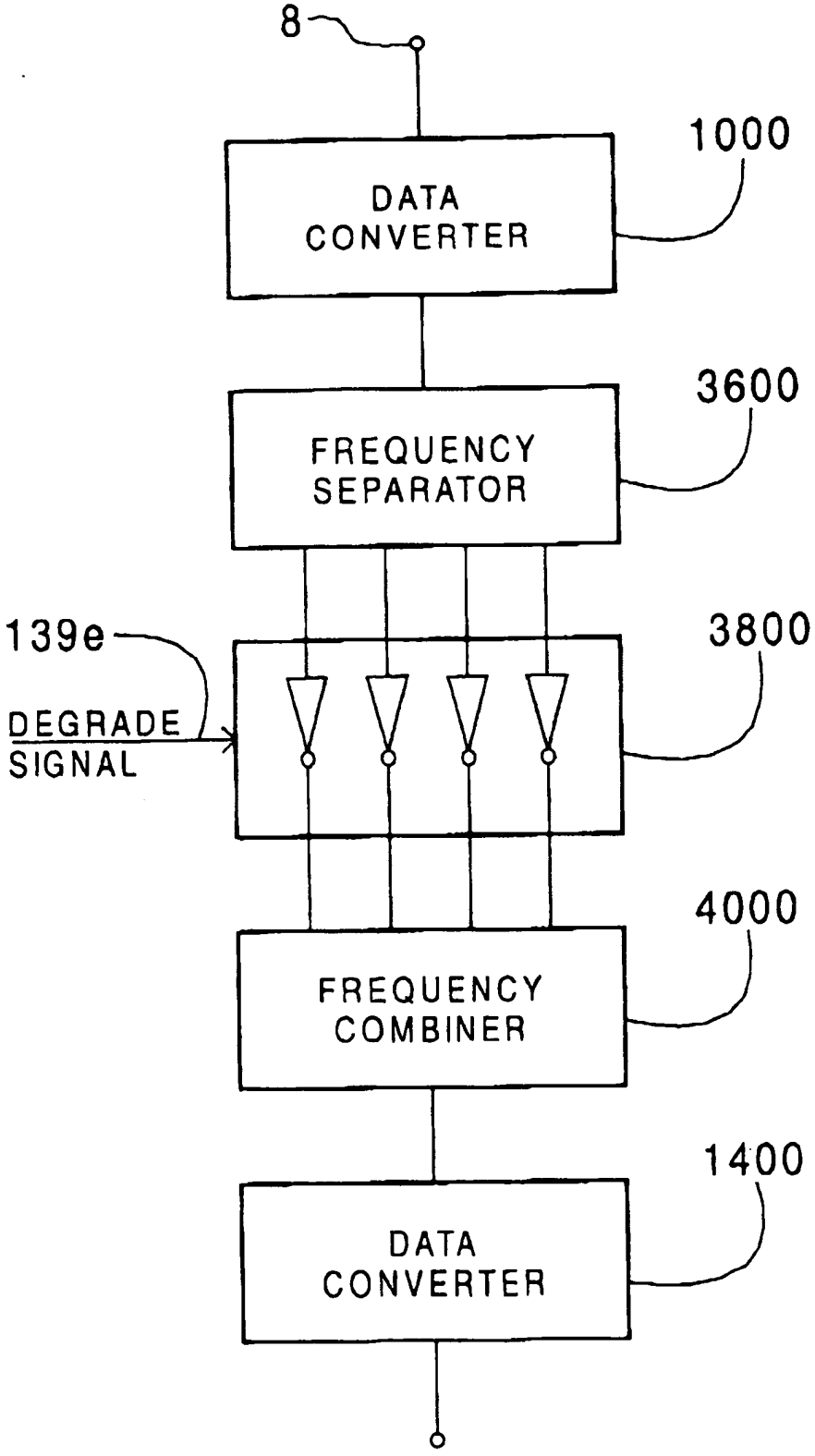
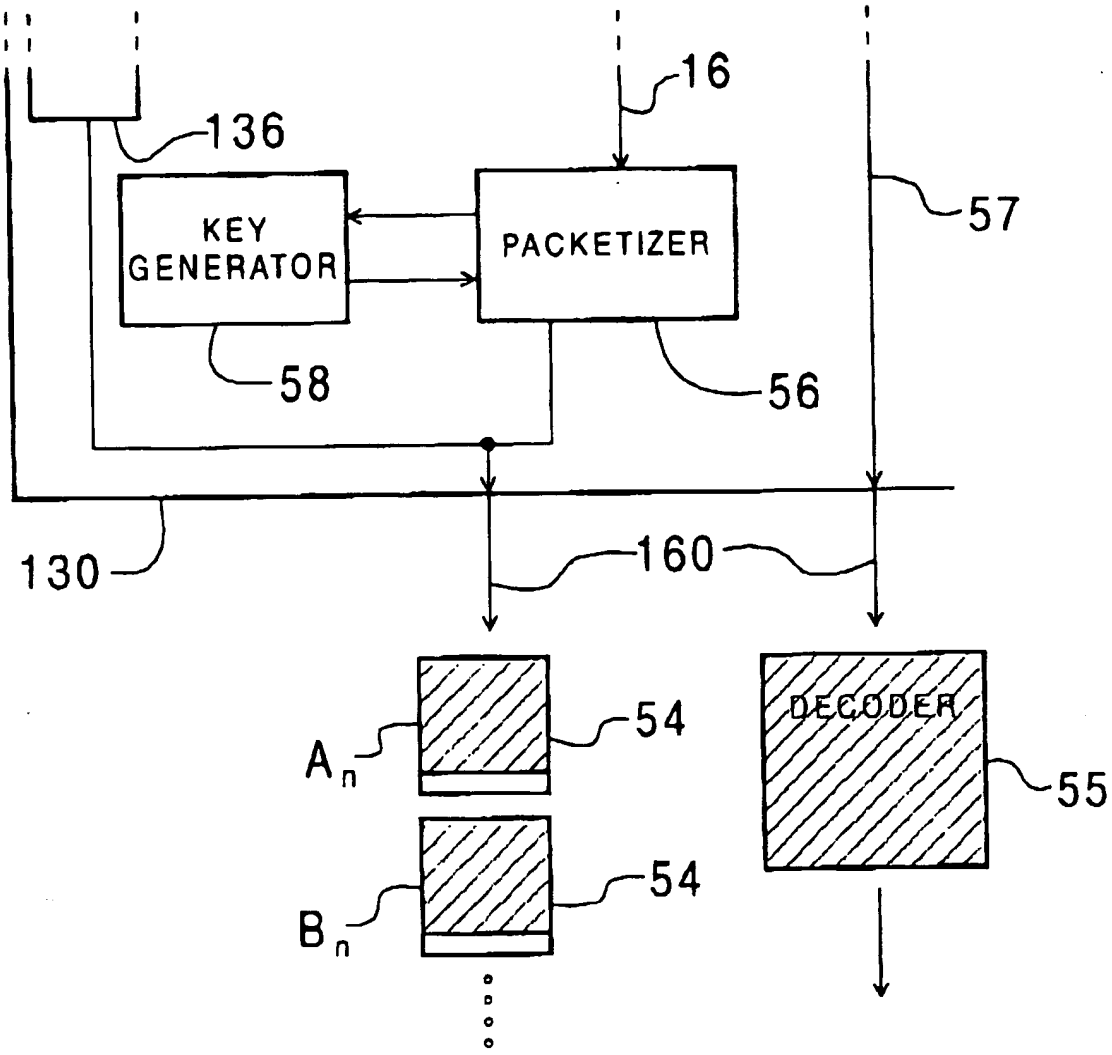

8
1000
DATA CONVERTER
3600
FREQUENCY SEPARATOR
139e
DEGRADE SIGNAL
3800
4000
FREQUENCY COMBINER
1400
DATA CONVERTER

Fig. 28


16
136
KEY GENERATOR
PACKETIZER
57
58
56
130
160
A_n
54
DECODER
55
B_n
54

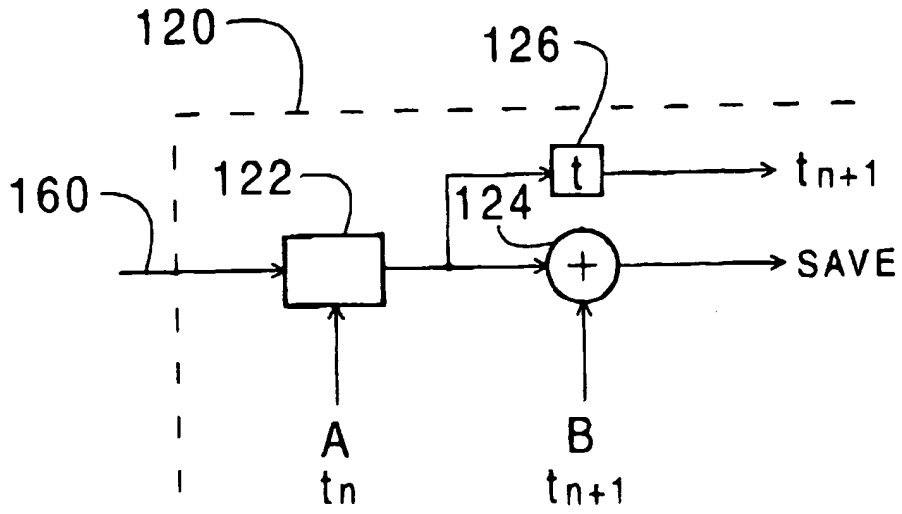



Fig. 29